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ABSTRACT

This study investigated the effect of written language experience on spelling proficiency. Students in the second grade did story writing in a supportive environment which accepted their language when they wrote rather than imposed a criteria of correctness. The students were encouraged to use "functional," or "invented," spelling when they wrote. All the students' writing during the school year was collected in folders for a record of language growth and development, which included a profile of spelling development. Examination of the work of one student, revealed two indications of language growth in spelling. The first was an increase in words spelled conventionally; the second was a change in the type of functional spelling. His functional spellings revealed use of sound/symbol relationships, morphemic knowledge, and visual memory. As the student becomes more of a risk-taker and was more willing to experiment further with linguistic strategies in solving spelling problems, he was moving closer to convention in his spelling and was writing longer, more complex pieces. Findings suggest that children are active participants in the use of language and constantly generate hypotheses which serve their purpose for each occasion. Findings also suggest that if children are encouraged to work through spellings of unknown words, they become sensitive to conventional spellings when they encounter them in print. (Three tables of data are included; an appendix of functional spelling strategies is attached.) (KEH)

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The Enhancement of Spelling Proficiency Through Written Language Experience

by

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Children learn to spell through engaging in reading and writing events rather than practicing isolated spelling lists. I became aware of this phenomenon when, as a second grade teacher, I became interested in developing a curriculum which integrated reading and writing in meaningful, contextualized ways. Not only did I try to focus on authentic language events, but I wanted to create a classroom environment which supported risk-taking by the students (Goodman & Goodman, 1979). A major component of creating a supportive environment was accepting my students' language when they wrote rather than imposing a criteria of correctness. I encouraged them to concentrate on getting their thoughts on paper rather than laboring over the mechanics of writing or conventional spelling in their first drafts.

The children used "functional," or "invented," spelling when they wrote. At the beginning of the school year I encouraged the children to "spell the best you can. You will know what it says when you read it." And most of the time they did. The children had no trouble accepting this procedure.

I kept the children's writing in a folder for a record of language growth and development. At first when I analyzed the children's writing, I focused my attention on the kinds of stories the children wrote, observing their sense of story-ness, cohesiveness, mood, and audience awareness. But I then realized that I had also collected a profile of spelling development for each student as well.

When I examined the children's spelling behavior, I noticed two indications of language growth in spelling. The first was an increase in words spelled conventionally. The other was a change in the type of functional spelling. David's stories are good examples of this written language behavior.

The flowers
David Oct 21, 1977
In a fid there was a lats uv flrs. and the flrs wr pritee colrs red and blow and green and yellow. All uv the flrs wr prite. One day the flrs wr diene. And it wus sad. de call the flre wr priete.

Fal times
David Nov. 23, 1977
fal is ciwiite. And it is pritty all is cwiite. And they are difert colers lile red and brown and ong. And fal is so pesfl.

cres are fun

David Jan. 1, 1978

Cres are fun and they have for wels and a igin and a chrc and some are blow and some are red and mine is red and I like it it is cuferdall. cres are the way to cravall cre have yinsit on them and dig litse they are nise and they are niete they nide gas gust like we nide water and meet and uther things gust like cres. some cres are siverlay and like mustaing and the uther cinse of the uther cres and I have a sivey and it is red and it is a pritty cre.

At first glance, David's stories entitled, "The Flowers," "Fall Times," and "Cars Are Fun," appear to consist mostly of misspelled words. However, as I examined his pieces more closely, I discovered that his use of conventional spellings was greater than I first thought. His functional spellings also provided me with insights into his use of sound/symbol relationships, his use of morphemic knowledge and his use of visual memory.

Conventional and Functional Spelling

In the first analysis, I compared the amount of conventional spelling to the amount of functional spellings used by the student (Scibior, 1985). I counted the total number of words in each story, including the title and the closing phrase, "The End." I then counted the number of words spelled conventionally and divided this number by the total number of words in the story for the percentage.

Through this process I discovered that the majority of words in each piece was spelled conventionally by most of the students. This discovery compelled me to rethink my attitude toward the language learner. Before I used this spelling analysis, I tended to focus on words spelled incorrectly. After this analysis, I realized that most second graders were in far better control of their language ability than I had imagined.

In addition, I found that all my students made consistent growth in conventional spelling in their writings throughout the year. A demonstration of this behavior is apparent in three samples of David's writing (see Table 1).

Table 1

		Total Wds.	Conven.	Func.
October 24	The Flowers	43	47%	53%
November 23	Fall Times	28	57%	43%
January 1	Cars are Fun	104	67%	33%

The comparison of conventional and functional spelling in these stories shows that David had, in just three months, consistent growth using conventional spelling. This growth continued throughout the year and by the end of second grade David's conventional spellings had reached eighty-seven percent (87%) of the total words written. Impressive as these results are, the analysis of linguistic

strategies David used to generate functional spellings provided additional insights about his use and exploration of language.

Functional Spelling Strategies

Linguistic analysis involves charting each functionally spelled word and determining which strategies the student might have considered when he or she generated the spelling. The categories and examples that I use have been adapted from research conducted by Bouffler, (1983), Busch (1977, 1979), Harste, Woodward and Burke (1986), Read (1975), and Scibior (1986). These categories include: spell by the way it sounds, spell by articulation, spell by visual awareness, spell by analogy, spell by using known spellings for unknown spellings, spell by using rules, and spell by using a group of letters, placeholders, for meaning (see Appendix A).

I used a worksheet with eight columns, one column for each of the seven categories and one column for the word spelled both conventionally and functionally. I predicted which strategies the student might have considered when using the functional spelling and placed a check under the appropriate column or columns. More than one category can be checked since more than one strategy may be employed by the student. For instance, when David generated "FID" for the word "field," I checked the strategies "sound" and "articulation."

When students sound out words, they use a strategy based on sound/symbol relationships. This category involves direct representation of sound by a related symbol (UV - of), use of letter names to represent sound (LFNT - elephant), and use of a symbol to represent a sound unit such as a syllable (/ / - Lisa).

The articulation category is based on the research of Read (1975). He found that young children often choose letters based on the position of the tongue when voicing sounds. The proximity of some short vowel sounds during the voicing process in the mouth are reflected in the functional spellings of the children. Children spell the sounds they feel in their mouth. For example, short vowels are substituted based on articulation (LAT - lot), vowels are represented by single vowel letters (BOT - boat), and vowels are omitted when preceded by certain consonants (PESL - pencil). In addition, there are consonant substitutions in some beginning sounds (CHR - tr) and some articulatory features that are not represented (NUBRS - numbers).

In analyzing the functionally spelled word "FID," I selected the sound category because the beginning and ending sound of the functionally spelled word is consistent with the beginning and ending sound of the conventionally spelled word. I also checked the articulation category because one vowel serves the graphic function of two vowels (i.e., the "i" is used as a short vowel) and a consonant placed before another consonant is omitted.

When David generated "PRITEE," four categories were checked: sound, articulation, visual awareness, and rules. Sound was checked because the word "sounds" the way David spelled it. Articulation was checked because David substituted the short "i" sound for the graphic vowel "e." Visual awareness was checked because the functional spelling resembles the conventional spelling. The rule column under morphemic knowledge was coded because children are taught "two vowels together make the long vowel sound."

In the case of the functional spelling "DIENE," I checked the sound and known/unknown categories. In this spelling, I assumed that David knew how to spell "die" and has added "NE" as a "sounding out" strategy.

The following chart illustrates the strategies David used as he generated functional spellings. The numbers in parentheses represent the number of times the spellings were used.

Table 2

Functional Spelling Strategies
Title: The Flowers

	SOUND/SYMBOL		VISUAL MEMORY	MORPHEMIC KNOWLEDGE			
Word	Sound	Articulation	Visual Awareness	Analogy	Known/ Unknown	Rules	Place-holders
FID/field	x	x					
LATS/lots	x	x	x				
UV/of (2)	x	x					
FLRS/flowers (4)	x	x					
WR/were (3)	x	x					
PRITEE/pretty	x	x	x			x	
PRIETE/pretty	x	x	x			x	
PRITE/pretty (2)	x	x					
COLRS/colors	x	x	x				
BLOU/blue	x	x					
DIENE/dying	x				x		
WUS/was (2)	x	x	x				
DE CALL/because		x	x		x		
Percentages	95	81	61	0	9	9	0

In the piece titled "The Flowers," it is apparent that David relied heavily on sounding out the word and articulation with some consideration of visual awareness, that is, the spellings he generated had close graphic similarity to conventional spellings. Using known spelling to solve the problem of unknown spellings had also been a consideration.

David experimented with the spelling of "pretty." He tried three variations: PRITEE, PRIETE, PRITE. It is obvious that David didn't need a teacher to circle these words and tell him they were misspelled. He already had that information. His experimentation with the word demonstrated that he was not satisfied with his attempts and he continued to seek the conventional spelling by applying different strategies toward this end. He moved closer to convention in his story, "Fall Times," written a month later, when he generated "PRITTY."

In the third story, "Cars Are Fun," written three months later, David was still relying on sound/symbol relationships and articulation. However, he was using his morphemic or word knowledge more often. For instance, David knew that sometimes the plural was spelled "es." He transposed these letters on several occasions and wrote "SE" (LITSE - lights; CINSE - kinds). He was aware of the rule

that sometimes two vowels together represent the long vowel sound (NIETE - neat). He also knew about the "silent e" rule and incorporated this as well. He didn't have this linguistic information under control yet but, given time, he would gain competency in these areas.

In addition, David was moving closer to conventional spelling through visual memory or visual awareness, relying on approximate length and configuration in the visual pattern of the word. This is most evident in his spelling of "GUST" for "just" and "UTHER" for "other."

David also drew upon his knowledge of known spelling words to generate unknown spellings (SIVERLAY - Chevrolet; MUSTAING - Mustang). In "SIVERLAY," he used the word "lay" for the ending of the word. In "MUSTAING" he used the word "must" (see Table 3).

Table 3

Functional Spelling Strategies
Title: Cars Are Fun

	SOUND/ SYMBOL		VISUAL MEMORY	MORPHEMIC KNOWLEDGE			
Word	Sound	Articulation	Visual Awareness	Analogy	Known/ Unknown	Rules	Place-holders
CRES/cars (4)	x	x					
FOR/four	x	x		x	x		
WELS/wheel	x	x					
IGIN/engine	x	x					
CHRC/trunk	x	x					
BLOW/blue	x	x			x		
CHRO/chrome	x	x					
CUFERDALL/comfortable	x	x	x				
CRAVALL/travel	x	x					
YINSIT/windshield	x	x					
DIG/big		x					
LITSE/lights	x					x	
NIETE/neat	x	x				x	
NISE/nice	x		x				
NIDE/need (2)	x	x				x	
GUST/just (2)	x	x					
MEET/meat				x	x		
UTHER/other (2)		x	x				
SIVERLAY/Chevrolet	x	x	x			x	
MUSTAING/Mustang	x	x	x		x		
CINSE/kinds	x	x				x	
UV/of	x						
SIVERY/Chevy	x	x					
PRITTY/pretty	x	x	x				
CRE/car (2)	x	x				x	
Percentages	91	72	25	6	16	16	0

In comparing the functional spelling strategies that David used in his first piece, "The Flowers," with "Cars Are Fun," written three months later, it is obvious David was still relying heavily on the "sounding out" strategy in most cases of invented spellings. However, he was using the "articulation" strategy less, which I view as an early childhood language behavior. As children become more proficient in sound/symbol relationships, they rely less on articulation or the "feel" of voiced sounds.

David was also incorporating a broader range of strategies, which I view as growth in the use of invented spelling strategies. He was moving closer to convention through his increased use of visual memory strategy and he had more morphemic knowledge about words.

It is clear that David was learning about language through using language and exploring the ways language works. It is evident that David had become more of a risk-taker and was willing to experiment further with linguistic strategies in solving spelling problems. He was moving closer to convention in his spelling and was writing longer, more complex pieces. This change was accomplished by providing opportunities for daily reading and writing experiences.

What I Learned

I learned to view children's functional spelling with anticipation and awe. I learned that the language systems (graphophonemic, syntactic, and semantic) are operating in the selection of invented spelling strategies by the child. The graphophonemic system is realized through the "sounding out" strategy and the use of visual memory, "looks like." The syntactic and semantic systems are utilized through application of morphemic knowledge about language.

I learned that children rely on their knowledge about phonics when they write. This was evident during the writing process when I observed them sub-vocalizing, or sounding out, as they put their thoughts on paper. Their knowledge of phonics was evident in the writing product when I charted spelling strategies on their invented spellings. This process is a natural use of "phonics in context," using authentic language events to explore and expand their language.

I also observed that as young children became more proficient language users their use of the articulation strategy diminished. Through using language, they became more confident in their knowledge of sound/symbol relationships, they increased their morphemic knowledge and they increased their visual memory of words.

My perspective changed as I began to focus less on finding errors and more on looking for what children knew about language. When a student spells "house," for example, by omitting only the silent e, i.e. (h-o-u-s), the word is 80% conventionally spelled, not 100% incorrect as I formerly believed. My respect for children grew as I discovered they were active participants in the use of language and constantly generating hypotheses which served their purpose for each occasion. I came to understand that if children are encouraged to work through spellings of unknown words, they become sensitive to conventional spellings when they encounter them in print settings and respond, "Aha, so that's the way it's spelled." Through this process they move a step closer to convention.

Implications for the Classroom

In summary, I encourage those working with young children to reconsider the role of spelling and spelling lists in the curriculum. In my view, there is a better way to help children develop proficiency in spelling and in language as well. Begin keeping records of students' language growth over time by periodically analyzing conventional and functional spellings in their writing. Help students move toward convention by providing daily experiences in authentic language events. As part of the writing program, help children publish some of their writings so they can experience revision and editing processes which will support their move toward conventional language. Focus on what they do right instead of what they do wrong. I predict teachers will see proficient spellers develop naturally as a result of this reading/writing curriculum. As Parry and Hornsby (1985) have noted, "The need to spell is only obvious within the writing context, that is, it is only required when one wishes to write" (p. 60).

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APPENDIX A

Functional Spelling Strategies

1. **Spell the way it sounds.**

   Based on the assumption of direct sound/symbol relationships.

   a) Direct representation of sound by a related symbol.
   Example: UV - of; DK - doc; TIGR - tiger; KOK - coke

   b) Use of letter names to represent sound.
   Example: LFNT - elephant; U - you; R - are, our

   c) Use of a symbol to represent a sound unit such as a syllable.
   Example: ///// - my name is Lisa

2. **Spell the way it articulates.**

   Sound represented on basis of place of articulation such that sounds close in place of articulation (position of tongue when voicing sounds) are viewed as the same. Vowels represented by single letters. Vowels omitted when preceded by consonants.

   a) Vowel transition (I - e; I - o; E - a; A - o; O - u, etc.).
   Example: WUS - was; PEN - pin; SUM - some

   b) Vowels represented by a single letter.
   Example: BOT - boat; ET - eat; SELL - sail

   c) Consonant transition (CHR - tr; CR - tr; JR - dr, etc.).
   Example: CRAVELL - travel; JRAGIN - dragon; CHRIDAGEN - tried again)

   d) Certain articulary features not represented, e.g., nasalization before a consonant and presence of voicing.
   Example: NUBRS - numbers; AGRE - angry; FERE - very

3. **Spell by visual awareness/visual memory.**

   A visual strategy relying primarily on graphic patterning and configuration with some utilization of sound/symbol relationships.

   a) All or most elements represented but not necessarily in conventional order.
   Example: FRO - for; TOW - two; YUO - you; HOW - who

   b) Reversals as a result of visual similarity.

Example: b - d; p - q; a - o; m - n; u - w; o - u; v - w; etc.

c) Approximate length and configuration in visual pattern.
Example: ABUDT - about; CRES - cars; MUSTAING - mustang; PRITTY - pretty

4. **Spell by analogy.**

Use of perceived graphic and phonological similarities between words to arrive at spelling.

a) Confusion of homophones.
Example: THERE - their; SUM - some; SEE - sea; RODE - road

b) Collapse or extensions of semantic units.
Example: ALL MOST - almost; TACNAP - take nap; HAVETO - have to

5. **Spell by using known words to generate unknown words.**

Example: TOOL UP - tulip; SELLBOTSE - sailboats; DIENE - dying; LIEIN - lion

6. **Spell by using rules.**

A form of overgeneralization by the application of some "known" spelling rule to all instances where it might apply, e.g., silent "e," plural, past tense; two vowels spell vowel name, etc.

Example: BOTSE - boats, plural; UVE - of, silent e; HELPEEN - helping

7. **Spell by using a group of letters as placeholders for meaning.**

Example: LIPENE - octopus; RAES - jewels

Spelling categories based on research conducted by Bouffler (1983); Busch (1977, 1979); Harste, Woodward, & Burke (1984); Read (1975); Scibior (1986).

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